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25. ON *HESTIASULA BRUNNERIANA* SAUSSURE (INSECTA: MANTODEA) FROM PUNE, MAHARASHATRA

(With three text-figures)

On August 19, 1998, we first collected a colourful male specimen of a preying mantis on the campus of Pune University. Additional specimens, two males and three females, were collected in Pune during 1998-2000. All the mantids were collected live and maintained in the laboratory to observe food, feeding and general behaviour. Only four specimens have been preserved.

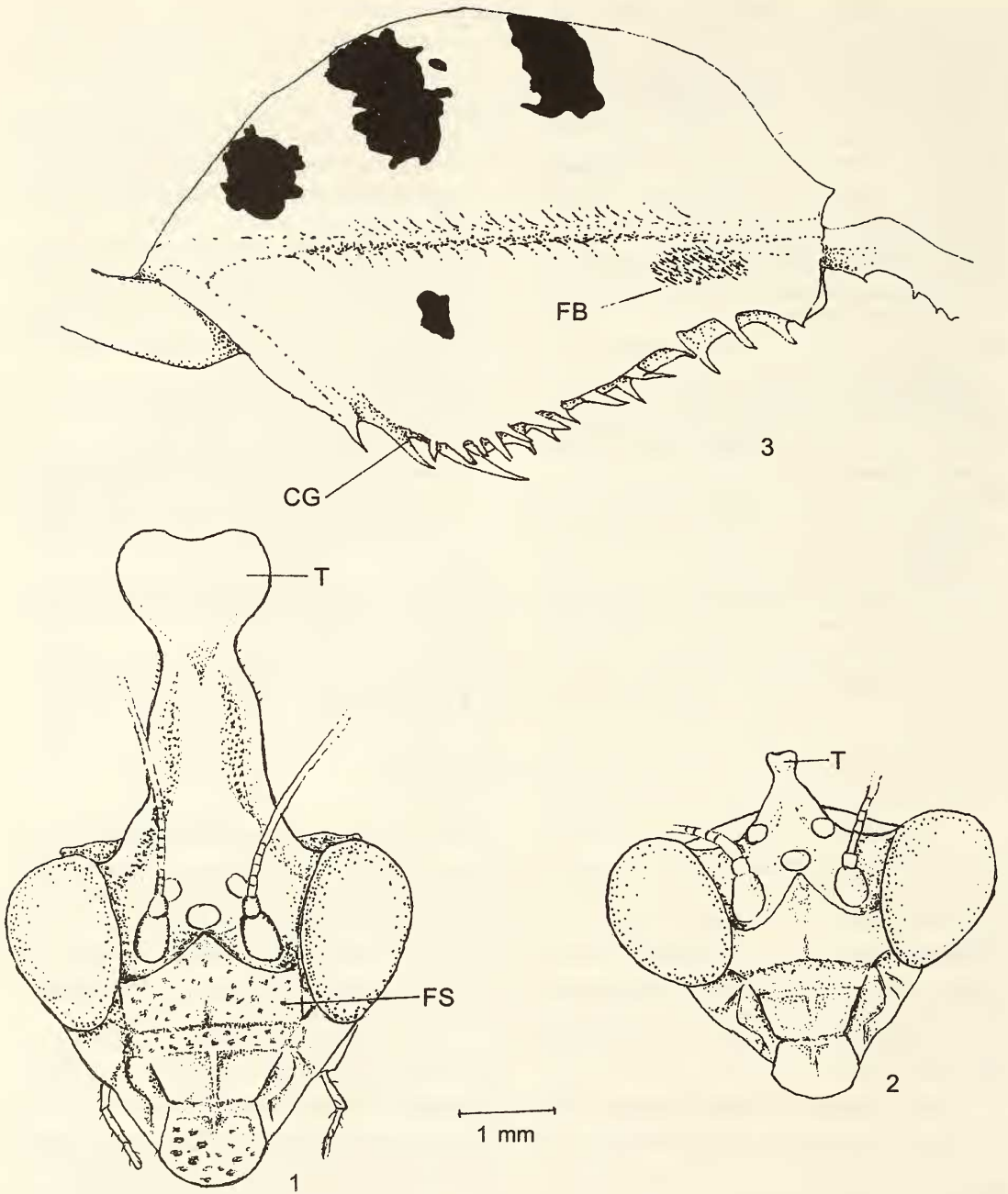
The important diagnostic characters of this mantis were as follows: External spines of the fore tibiae numerous, closely set (Family Hymenopodidae). Frontal sclerites without wing-like keels, eyes within circumference of head (Subfamily Acromantinae). Middle and hind femora without any significant lobe, disc of frontal sclerite smooth, superior border of fore

femora strongly arched and foliaceous (hence the genus *Hestiasula*). The species *H. brunneriana* was confirmed by the characteristic pattern of bold black blotches on the inner face of fore femora (3 blotches on the superior margin and one black spot near the spine in the middle of the fore femur) (Mukherjee *et al.* 1995).

Major taxonomic characters of this species are already given by Mukherjee *et al.* (1995). However, variations that we found in the two female specimens collected at Dapodi (27.iii.2000 and 2.iv.2000 specimens) are:

1) The costal area of the forewing was brownish opaque in two females and brownish-green in one male. Even in the live specimen, the brownish colour was evident in these two females as against the distinct green in others

MISCELLANEOUS NOTES



Figs 1-3: 1. Frontal view of the head of female, note the long bilobed tubercle (T) on the vertex;
2. Frontal view of the head of male. Note the comparatively small tubercle (T);
3. Inner face of femur, note the specific pattern of 3 black blotches and a spot
FB: Femoral brush, CG: Claw groove, T: Tubercle, FS: Frontal sclerite

MISCELLANEOUS NOTES

TABLE I
MORPHOMETRY (IN MM) OF *HESTIASULA BRUNNERIANA*

No.	Total Length	Fore Wing	Hind Wing	Head Length	Head Breadth	Prozona	Metazona	Fore coxa	Fore femur	Fore tibia	Sex
1	21	20.5	19	2	4.2	1.7	1.7	5.6	6.5	3.3	Male
2	25	24	21	2.3	4.4	2	2	6	7.5	4	Female
3	23	21	18	1.9	4	1.7	1.7	5	6	3	Male
4	22	21	18	1.7	4	1.7	1.7	4.8	6	3	Male
5	27	23.5	20	2	4.2	1.9	1.9	6	7	3.5	Female
6	23.5	22	19	2.2	4.2	2	2	6	7	4	Female

(costal area said to be greenish opaque for the species). 2) Mid and hind legs are not annulated brown, but are translucent with prominent black annulations. 3) The inner face of the fore femur normally has three black patches on superior edge and one black spot just above the spines in the middle of the femur. In one female (specimen no. 5), the right fore femur has the usual pattern, while on the left fore femur there is only a single patch on the superior edge (this is certainly an aberration). The usual spot above the spines, in the middle of the femur, is present.

Except for the black patches, the inner face of the fore femur is crimson in all the specimens we have observed — a feature not reported for the species. There are also small white patches encircled by black, just behind the mid and hind-coxa. These patches are near the thoracic spiracles.

The male and female can be easily differentiated by the prominent bilobed tubercle on the vertex in the female; this tubercle is 3 times longer than the simple tubercle of the male. This is an important sexual dimorphic character, apart from the anal styles, which are present in the male only (Figs 1 & 2).

These small mantids are active fliers. The opaque green colour of the costal area of the forewing is very prominent. The brownish coloration may be a seasonal variation, which we have noted in many other mantid species. The wings of the live mantid are shining. The crimson inner face of the fore femur, with its pattern of black patches (Fig.3), is highly prominent when

the insect moves one of those foliaceous fore femurs and it is distinctly different from the brownish colour of the outer face of the fore femur.

In captivity, these mantids readily accepted small moths attracted to the light at night. Presumably this is why these mantids are attracted to the fluorescent light. Even houseflies and small cockroaches (*Supella* sp.), provided in captivity, were readily eaten.

Hestiasula brunneriana is hitherto known only from Andhra Pradesh, Meghalaya, and West Bengal in India. Elsewhere, it is known from Bangladesh and Sri Lanka. Neither Nadkerny (1965), Mukherjee and Hazra (1983), nor Mukherjee *et al.* (1995), have recorded this species from Maharashtra. Thus, its occurrence in Pune, Maharashtra, is a range extension of this species to western India, as the previous records are confined to the eastern parts of India.

The female *H. brunneriana* (specimen no. 6) deposited an ootheca, containing fertilized eggs, on April 5, 2000. It was 9 mm long, 5.5 mm broad, and 4.8 mm high. The ootheca carried a 7 mm long, thin thread-like process. The nymphs hatched out in 26 days on May 1, 2000. This species, therefore, seems to breed in summer.

Material examined: Male, 19.viii.1998, University Campus, Pune, coll. Rahul Marathe; Female, 23.iii.1999, Kothrud, Pune, coll. Anand Padhye; Male, 3.iii.2000, Dapodi, Pune, coll. Rajpreet Kaur; Male, 3.iii.2000, Dapodi, Pune, coll. Rajpreet Kaur; Female, 27.iii.2000, Dapodi,

Pune, coll. Rajpreet Kaur; Female, 2.iv.2000, Dapodi, Pune, coll. Rajpreet Kaur.

All the mantids were collected when attracted towards fluorescent light.

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26. REDESCRIPTION OF *AMORPHOSCELIS ANNULICORNIS* STAL (INSECTA: MANTODEA) FROM MAHARASHTRA

(With two plates)

Recently, two specimens of a very interesting mantis were collected at Pune, and subsequently two in Tadoba (Chandrapur), Maharashtra State. The mantis was easily placed in the Family Amorphoscelidae because of a set of characteristics as follows: i. short, squarish, tuberculate pronotum (Plate 1, Fig 1). ii. femur and tibia without spines (except a single discoidal spine on femur, Plate 1, Fig. 2) and iii. anal cerci racket-shaped due to expanded distal segment.

In India, there is only one genus under this family, namely, *Amorphoscelis* of which there are only 3 known species (Mukherjee *et al.* 1995). The species *A. annulicornis* Stal was diagnosed by the presence of tubercles on anterior and posterior borders of the pronotum, and the colour pattern of the body. This mantis is supposed to be a common bark dwelling species, occurring in almost all the warmer parts of India. Although there is a report

of the genus *Amorphoscelis* from Andheri, Bombay (Nadkerny 1965), there is no previous record of *A. annulicornis* from Maharashtra (Mukherjee *et al.* 1995), hence this report.

A brief description of the species is given by Mukherjee *et al.* (1995). Some additional taxonomic features and photographs of this mantis are given here, which will help to identify it. Except for one specimen which is dark brown, all the specimens are brown with brownish-black marks on the forewings.

Redescription: Head triangular, dark brown with black dots on vertex. Vertex tuberculate with distinct lobulations; lateral lobes cone-shaped, apex of the cone facing posterior side. Frontal sclerite transverse; eyes dorsoventrally flattened, black; antennae thin and longer than body, each segment basally yellowish and apically black; antennal segments increase in length gradually from base to apex and possess a few setae.